WO 2005/010866 PCT/US2004/023676

5 What is claimed is:

10

20

1. A method comprising:

accepting query data from one or more spoken instance of a query;
processing the query data including determining a representation of the query
that defines multiple sequences of subword units each representing the
query; and

locating putative instances of the query in input data from an audio signal.

- 2. The method of claim 1 wherein processing the query data includes applying a speech recognition algorithm to the query data.
- 3. The method of claim 1 wherein the subword units include linguistic units.
- 15 4. The method of claim 2 wherein locating the putative instances includes applying a word spotting algorithm configured using the determined representation of the query.
  - 5. The method of claim 4 further comprising selecting parameter values of the speech recognition algorithm for application to the query data according to characteristics of the word spotting algorithm.
  - 6. The method of claim 5 wherein the selecting of the parameter values of the speech recognition algorithm includes optimizing said parameters according to an accuracy of the word spotting algorithm.
- 7. The method of claim 5 wherein the selecting of the parameter values of the speech recognition algorithm includes selecting values for parameters including one or more of an insertion factor, a recognition search beam width, a recognition grammar factor, and a number of recognition hypotheses.
  - 8. The method of any of claims 1 through 7 wherein determining the representation of the query includes determining a network of the subword units.

WO 2005/010866 PCT/US2004/023676

5 9. The method of claim 8 wherein the multiple sequences of subword units correspond to different paths through the network.

- 10. The method of any of claims 1 through 7 wherein determining the representation of the query includes determining an n-best list of recognition results.
- 11. The method of claim 10 wherein each of the multiple sequences of subword units corresponds to a different one in the n-best list of recognition results.
  - 12. The method of any of claims 1 through 7 wherein accepting the query data includes accepting audio data representing the spoken utterances of the query spoken by a user, and processing the audio data to form the query data.
- 13. The method of any of claims 1 through 7 wherein accepting the query data includes accepting selection by a user of portions of stored data from a previously accepted audio signal, and processing the portions of the stored data to form the query data.
  - 14. The method of claim 13 further comprising, prior to accepting the selection by the user, processing the previously accepted audio signal according to a first speech recognition algorithm to produce the stored data.

20

- 15. The method of claim 14 wherein the first speech recognition algorithm produces data related to presence of the subword units at different times in the audio signal.
- 16. The method of claim 14 wherein processing the query data includes applying a second speech recognition algorithm to the query data.
  - 17. Software stored on a computer-readable medium comprising instructions for causing a processing system to:

accept query data from one or more spoken instance of a query;

WO 2005/010866 PCT/US2004/023676

process the query data including determining a representation of the query that defines multiple sequences of subword units each representing the query; and

locate putative instances of the query in input data from an audio signal.

## 18. A system comprising:

- a speech recognizer for processing query data from one or more spoken instances of a query;
  - a data storage for receiving a data representation of the query from the speech recognizer, the data representation defining multiple sequences of subword units representing the query;
- a word spotter configured to use the data representation of the query to locate putative instances of the query in input data from an audio signal.